EFFECTS OF THE FEDERAL MEDICAID WAIVER IN MINNESOTA ON CHEMICAL DEPENDENCY TREATMENT ACCESS TO CARE, QUALITY OF CARE, AND TREATMENT OUTCOMES FOR MEDICAID-ELIGIBLE PATIENTS 1999-2000

EXECUTIVE SUMMARY

Since 1988, Minnesota's Consolidated Chemical Dependency Treatment Fund (CCDTF) has combined State, county, and federal funds to provide chemical dependency treatment for more than 22,000 persons per year, including a portion who are Medicaid (MA)-eligible. In effect, the MA waiver eliminated MA patients' right to choose any MA-reimbursable treatment program, regardless of cost. Instead, under the waiver and the CCDTF, county social service agencies and tribal government staff act as case managers for Medicaid enrollees and others of low or moderate income who are in need of treatment. County social service agencies and tribal governments are hereafter referred to as *localities*.

Individuals enrolled in Medicaid at the time of treatment placement are classified as the **Medicaid Group** in this report, whether or not they attended a program that was eligible for Medicaid payment. A **Comparison Group** was drawn from the large sample of publicly-funded treatment clients with comparable income levels who were not enrolled in Medicaid at the time of treatment admission. Because these cases were predominantly male, the **Comparison Group** was created by including all women of comparable income, as well as a sufficient number of men, randomly selected, to attain the same gender proportion that existed in the **Medicaid Group** (47.7% female and 52.3% male).

In order to determine that the waiver did not have a negative impact in terms of the quality of care received by Medicaid patients, analyses were conducted to examine the differences between the **Medicaid Group** and the **Comparison Group** in terms of treatment placement (outpatient or inpatient), the likelihood that the patients satisfactorily completed treatment, and lengths of stay for treatment completers.

Medicaid Group patients were slightly but significantly more likely to be placed in inpatient treatment than the **Comparison Group**. To test whether the **Medicaid Group** and **Comparison Group** differed in treatment placement after controlling for several pre-existing group differences, a logistic regression analysis was conducted. After controlling for sociodemographic and problem severity variables in this analysis, the **Medicaid Group** patients were still slightly but significantly more likely to be placed in inpatient treatment than the **Comparison Group** patients.

The **Medicaid Group** was significantly more likely than the **Comparison Group** to be discharged from treatment with an unsatisfactory treatment completion status. However, when controlling for pre-existing sociodemographic and problem severity variables in the **Medicaid Group** and **Comparison Group**, the **Medicaid Group** was not significantly less likely to satisfactorily complete treatment.

Length of stay for treatment completers was found to be significantly longer for the **Medicaid Group** than the **Comparison Group** for both inpatients and outpatients. A linear regression analysis controlling for sociodemographic and problem severity variables revealed that Group status did not predict length of stay for inpatients, but remained a significant predictor of length of stay for outpatients, with the **Medicaid Group** having longer lengths of stay.

These results confirm that changes associated with the implementation of the waiver did not have a negative impact on the quality of care received by Medicaid-eligible patients.

INTRODUCTION

Since January 1988, Minnesota's **Consolidated Chemical Dependency Treatment Fund (CCDTF)** has combined State, county, and federal funds to provide treatment services for chemically dependent and abusive persons of low and moderate income (M.S. Chapt. 254B), including Medicaid patients. Persons at two levels of income are eligible for part or all of their financial support for chemical dependency treatment through the CCDTF:

- **Tier 1**: persons at the lowest income levels who are enrolled in MA or GAMC or meet income eligibility guidelines for MA, adjusted for family size.

- **Tier 2**: persons of below-average income, with earning levels above Tier 1, but less than 215% of Federal Poverty Guidelines, adjusted for family size.

Treatment placement criteria: Under the laws and regulations associated with the CCDTF, the social services agency staff for Minnesota's counties and Indian reservations act as case managers for chemically abusive and dependent patients seeking government funds for treatment. These social agencies use the clinical criteria established in Minnesota Rules parts 9530.6600 to 9530.6660 to place a patient in the level of care most appropriate for the severity of the substance use disorder and co-existing problems. This rule governing treatment placement is commonly referred to as Rule 25.

The four levels of care licensed in Minnesota are:

- **Inpatient treatment** provides intensive therapeutic services following detoxification either in a hospital or freestanding facility.

- **Outpatient treatment** provides primary treatment care on a non-residential basis. Individuals in outpatient treatment may live in supportive housing or halfway houses while attending treatment.

- **Extended care** provides longer-term but less intensive residential chemical dependency services than inpatient treatment, in combination with community ancillary resources.

- **Halfway houses** provide transitional chemical dependency rehabilitation services in a semi-independent living arrangement with an emphasis on aftercare, community ancillary services, and securing employment.

Exceptions can be made to Rule 25 criteria for placement in order to accommodate a patient's specialized needs. For example, exceptions to the level-of-care placement guidelines may be made to send a patient to a program targeted to African-Americans, American Indians, Hispanics, Southeast Asians, women, adolescents, elderly persons, or gays and lesbians.

Host county and tribal government agreements. locality exercises considerable autonomy, under State supervision, in negotiating with treatment providers for appropriate, cost-effective treatment. Localities annually negotiate contracts specifying treatment rates with treatment providers in their jurisdictions. These contracts, called "host county or tribal government agreements," set the annual treatment rates for all CCDTF reimbursement to those respective programs, even for treatment of patients coming into the county from another jurisdiction.

The Medicaid Waiver

To facilitate the implementation of the CCDTF, the Health Care Financing Administration (HCFA) of the U.S. Department of Health and Human Services (DHHS), under Sections 1915(b)(1) and (4) of the Social Security Act, permitted in Minnesota exceptions to usual federal rules for placement of Medicaid (MA) patients in chemical dependency (CD) treatment. These exceptions, the so-called "Medicaid waiver" provisions, extended the authority of localities to manage the treatment placement of chemically abusive and dependent Medicaid patients. The MA waiver and CCDTF were implemented simultaneously in January, 1988.

Under the CCDTF and MA waiver, locality staff assess the financial need, including Medicaid eligibility, and the alcohol and drug use of each prospective candidate for government-funded treatment. Case managers then use Rule 25 criteria to determine the most appropriate placement for those patients who meet financial eligibility.

Prior to the waiver, MA patients had freedom to choose any treatment program, regardless of cost, providing it was eligible for MA reimbursement. The waiver eliminates this right. Under the waiver, all Medicaid patients in need of chemical dependency treatment are placed by counties or reservations in accord with the regulations of the CCDTF program.

Some MA patients' treatment needs are best served by a program that may not be eligible for MA reimbursement. In those cases the patient is given the option of waiving the right to MA coverage and going to a non-MA-reimbursable program. When MA patients consent to this option, they are placed in non-MA programs, and their other medical needs are covered by the state General Assistance Medical Care (GAMC) program. Their MA status resumes when they are discharged from the program.

Because the MA waiver program covered all Medicaid patients during 1999 and 2000, it was not possible to use an experimentally created or naturally occurring control group of non-waivered Medicaid patients for purposes of comparison. Therefore, a **Comparison Group** of non-MA eligible patients was selected who had incomes similar to the MA eligible patients (CCDTF Tier 1).

Since data collection is based on treatment episodes, these episodes are used as the units of analysis for this report. One consequence of using episodes is that some patients are represented more than once; for example, a patient may have participated in two episodes of treatment during the two-year period studied or a patient's treatment may consist of inpatient treatment followed by outpatient treatment.

Purpose of the evaluation

In order to determine that the waiver did not have a negative impact in terms of the quality of care received by Medicaid patients, analyses were conducted to examine the differences between the **Medicaid Group** and the **Comparison Group** in terms of treatment placement (outpatient or inpatient), the likelihood that the patients satisfactorily completed treatment, and lengths of stay for treatment completers.

METHOD

Two distinct data systems support the analyses required for this report. The CCDTF system is the placement authorization and treatment reimbursement system for services provided through the CCDTF. The Drug and Alcohol Abuse Normative Evaluation System (DAANES) provides a summary of treatment episodes for all admission in the state.

The CCDTF data system

This system provides the identification of individuals who are enrolled in Medicaid (MA) or the State's General Assistance Medical Care (GAMC) public health care programs as well as those who receive services through the broader state entitlement. For this report, the CCDTF system was used to identify individuals who were enrolled in Medicaid at the time of treatment placement (the **Medicaid Group)** and to identify non-Medicaid recipients who qualified for treatment through the CCDTF under Tier 1 income criteria (the **Comparison Group).**

DAANES

The DAANES system incorporates federal minimum reporting requirements that constitute the Treatment Episode Data Set (TEDS). Federal reporting requirements mandate that every treatment program must report minimum data on every client (regardless of payer source) if the program serves any clients supported by federal block grant funds. Nearly all (98%) of Minnesota's treatment programs submit the DAANES data set for their admissions.

DAANES includes three forms: Intake, History, and Discharge. The **Intake** form includes level of care, county of residence, sources of referral, legal status, educational level, occupational status, other demographics, prior living arrangements, and previous treatment experience. The **History** form includes primary chemical dependency diagnosis; alcohol and other drug use patterns; and arrest history. The **Discharge** form includes treatment completion status.

As authorized under Title 42 Part 2.52(a) of the Code of Federal Regulations (CFR) and Minnesota Statutes section 254.03(d), providers collect client specific data and submit it to the Department of Human Services for purposes of research and evaluation. Client consent is not required for the collection or submission of DAANES data for the purposes specified. As a unique client identifier, DAANES data forms use a cryptogram comprised of an amalgam of letters from the client's name, digits from the birth date and Social Security number (if

available), program identifying code, and admission date. For purposes of this report, DAANES data were matched to CCDTF data by using several elements of the cryptogram (letters from the client's name, birth date, admission date) as well as level of care.

Study samples and sub-samples

During 1999 and 2000, 30,660 primary treatment episodes were covered through the Consolidated Fund. Primary treatment includes outpatient and inpatient programs, but not extended care and halfway house programs. Of this number, 6,288 were enrolled in Medicaid at the time of treatment placement and are defined as the **Medicaid Group**. The number of patients who were eligible for the Consolidated Fund under Tier 1 criteria totaled 18,815 and are defined as the **Comparison Group**. The remaining 5,557 cases had incomes that exceeded Tier 1 criteria so they were excluded from further analyses.

Of the 25,103 (6,288 + 18,815) cases under consideration for this evaluation report, 18,577 (74%) were successfully linked with a DAANES record. Failure to link records from the two data systems resulted from the use of different names being recorded (e.g., nicknames, different surnames, misspellings), and from coding errors (letters in the name or digits in the birth date, Social Security number, or admission date). Although failure to link all records reduced sample size, the mismatches are believed to be unsystematic and unlikely to bias the results.

Because comparisons of length of stay were to be a focus of the analyses for this report, lengths of stay were examined for error. A total of 865 cases were identified for which the length of stay could not be calculated because the Discharge form was missing or for which the calculated length of stay was out of range for the program type. Specifically, this exclusion was applied to inpatients whose calculated stays exceeded 10 weeks and outpatients whose calculated stays exceeded 26 weeks. Previous analyses of DAANES data have shown such atypically long durations of treatment episodes cases are more likely coding errors of date on the Discharge form than actual lengths of stay.

Exclusions of cases for atypical length of stay left 17,712 cases: 4,360 in the **Medicaid Group** and 13,352 in the **Comparison Group**. Preliminary analyses revealed a large gender disparity between these two groups, with patients in the **Medicaid Group** more than twice as likely to be female as those in the **Comparison Group** (48% versus 23%). One additional sample adjustment was then made to equalize the gender distributions in the two groups so that factors associated with gender would not confound comparisons made for this report. All of the females in the **Comparison Group** were retained in the sample along with a randomly selected number of males to equalize the gender distributions.

The final sample breaks down as follows:

	Study Group

Gender	Medicaid	Comparison
Male	2,281 (52.3%)	3,382 (52.3%)
Female	2,079 (47.7%)	3,082 (47.7%)
Total	4,360	6,464

Data analyses

Descriptive analyses consisted of contingency tables to examine sociodemographic and problem severity differences between the two study groups which might affect study results. These are briefly described, but detailed information regarding tests of statistical significance is not provided.

In order to determine that the waiver did not have a negative impact in terms of the quality of care received by Medicaid patients, the key analyses involved examining differences between the **Medicaid Group** and the **Comparison Group** in terms of treatment placement (outpatient or inpatient), the likelihood that the patients satisfactorily completed treatment, and lengths of stay for treatment completers. A negative impact of the waiver would be evidenced by higher utilization of less intensive outpatient treatment instead of inpatient treatment, lower treatment completion rates, and shorter lengths of stay when comparing the **Medicaid Group** to the **Comparison Group**.

To address the study questions with respect to treatment placement, treatment completion, and lengths of stay, a variety of analyses were conducted, including contingency table analyses, non-parametric tests, logistic regression and linear regression analyses. For these analyses, the results of statistical significance testing are provided. Regression analyses were used when preliminary analyses showed a significant difference between the study groups to determine whether the difference was attributable to sociodemographic or problem severity differences between those groups.

RESULTS

Group comparisons on sociodemographic and substance use variables

Although the **Comparison Group** sample was adjusted so that the gender distribution was identical to that of the **Medicaid Group**, other sociodemographic differences distinguish the two groups. **Medicaid Group** patients were much more likely than **Comparison Group** patients to be under age 21 (34.7% versus 16.3%), to be living with dependent children (33.6% versus 23.6%), and to be pregnant at admission to treatment (6.9% versus 3.2%). **Medicaid Group** patients also had lower levels of education and employment consistent with their relatively younger age. The **Medicaid Group** included a somewhat larger proportion of people of color than the **Comparison Group** (44.9% versus 38.6%).

Differences between the two groups were also seen in the primary drug of abuse precipitating treatment, with the **Medicaid Group** including more patients identifying marijuana as their primary drug (28.2% versus 17.9% for the **Comparison Group**), and fewer identifying alcohol

(50.0% versus 55.2%). The higher proportion of adolescents and young adults in the **Medicaid Group** explains the higher rate for marijuana as the treatment precipitant.

The **Medicaid Group** included a smaller proportion of patients than the **Comparison Group** who used a substance on a daily basis (41.6% versus 47.0%) and a smaller proportion arrested or convicted in the past 6 months (42.7% versus 47.5%). The **Medicaid Group** was less likely than the **Comparison Group** to report that their driver's license was currently under revocation to a conviction for driving while intoxicated (16.9% versus 25.6%); their lifetime arrest rate for DWI was also considerably lower (34.3% versus 47.2%).

Group comparisons with respect to treatment placement

The **Medicaid Group** patients were slightly but significantly more likely to be placed in inpatient treatment than the **Comparison Group** patients (see table below; $\chi^2(1)=5.19$, p=.02).

	Study Group	
Level of care	**Medicaid**	**Comparison**
Outpatient	2,330 (53.4%)	3,598 (55.7%)
Inpatient	2,030 (46.6%)	2,866 (44.3%)
Total	4,360	6,464

Since the **Medicaid Group** and **Comparison Group** were matched only on sex, it is possible that the difference in the use of inpatient treatment may be attributable to pre-existing differences in the two populations on factors that determine or are related to patient placement through Rule 25 criteria (e.g., substance use severity, previous treatment, etc.). To test whether the **Medicaid Group** and **Comparison Group** differ on level of care after controlling for several pre-existing group differences, a logistic regression analysis was conducted.

The variables controlled for included sex, age, race, legal status, marital status, living with dependent children, primary occupation, primary source of income, number of previous treatment episodes, alcohol use frequency, drug use frequency, and arrests or convictions in the past six months. Even after controlling for these variables, individuals in the **Medicaid Group** were still slightly but significantly more likely to be placed in an inpatient setting than individuals in the **Comparison Group** (OR = 1.20, p=.001).

Group comparisons with respect to treatment completion

Satisfactory treatment completion has been found to be one of the most significant and consistent predictors of favorable posttreatment treatment outcomes in Minnesota and elsewhere (see Harrison and Asche, 2000). Treatment completion status was divided into four categories: satisfactory treatment completion (which is determined by clinical program staff); unsatisfactory completion (which includes leaving the program against clinical advice and being asked to leave the program because of noncompliance with program requirements); transfers and inappropriate

admissions (which include discharges or transfers to other programs or services more appropriate for the patient's diagnosis or needs); and administrative discharges (financial ineligibility, termination of commitment, death). Transfers and inappropriate admissions comprised 9.8% of the **Medicaid Group** and 7.7% of the **Comparison Group**, and administrative discharges comprised 2.1% of the **Medicaid Group** and 1.7% of the **Comparison Group.**

In order to compare the rates of satisfactory and unsatisfactory discharges for the **Medicaid Group** and the **Comparison Group,** transfers, inappropriate admission, and administrative discharges were excluded from the analysis. The results show that **Medicaid Group** patients were significantly more likely to be discharged from treatment with an unsatisfactory treatment completion status (see table below; χ^2 (1)=20.72, p<.001).

	Study Group	
Completion status	**Medicaid**	**Comparison**
Satisfactory	2,571 (66.9%)	4,172 (71.3%)
Unsatisfactory	1,271 (33.1%)	1,682 (28.7%)
Total	3,842	5,854

Since the **Medicaid Group** and **Comparison Group** were matched only on sex, it is possible that the differences in satisfactory treatment completion rates may be attributable to pre-existing differences in the two populations on factors that relate to treatment completion. To test whether the **Medicaid Group** and **Comparison Group** differ on satisfactory treatment completion after controlling for several pre-existing group differences, a logistic regression analysis was conducted. Control variables were chosen that have shown to predict satisfactory treatment completion in a previous state study (Harrison & Asche, 2000). These control variables included age, race, employment status, history of previous detox and CD treatment admissions, and substance use severity. After controlling for these sociodemographic and problem severity variables, the **Medicaid Group** was not significantly less likely to satisfactorily complete treatment (OR=0.92, p=.12).

Group comparisons with respect to length of stay for treatment completers

Length of stay for treatment completers is significantly longer for the **Medicaid Group** than the **Comparison Group** for both inpatient and outpatient settings (see table below; for inpatients: Mann-Whitney z=4.38, p<.001; for outpatients: Mann-Whitney z=10.01, p<.001).

	Inpatient		Outpatient	
	Study Group		Study Group	
Length of stay (days)	**Medicaid**	**Comparison**	**Medicaid**	**Comparison**
N	1,309	1,981	1,262	2,191
Mean	27.1	25.6	65.1	52.8
Median	27	25	56	43

Std. Dev.	10.85	9.90	39.21	35.88

To determine whether differences in patient characteristics accounted for the difference in length of stay, a linear regression analysis predicting length of stay was conducted for each setting. The control variables were the same as those used in the logistic regression analysis examining treatment placement. This analysis found that when these other variables were in the analysis, Group status did not predict length of stay for inpatients (b=.477, t=1.07, p=.29). However, Group status remained a significant predictor of length of stay for outpatients, with the **Medicaid Group** having longer lengths of stay than the **Comparison Group** (b=5.83, t=3.65, p<.001).

CONCLUSIONS

The analyses conducted for this evaluation report found that there were differences between the **Medicaid Group** and the **Comparison Group** in terms of treatment placement, treatment completion, and length of stay. However, some of these differences by group do not hold up in multivariate analysis when controlling for pre-existing sociodemographic and severity differences between the groups. And the differences that do hold up do not show a lower quality of care for the **Medicaid Group** over the **Comparison Group**. Rather, they show the opposite.

The **Medicaid Group** was slightly but significantly more likely than the **Comparison Group** to be placed in inpatient treatment rather than outpatient treatment. Even after controlling for sociodemographic and severity variables, individuals in the **Medicaid Group** were still slightly but significantly more likely to be placed in an inpatient setting than individuals in the **Comparison Group**.

Although the **Medicaid Group** was significantly more likely than the **Comparison Group** to be discharged from treatment with an unsatisfactory treatment completion status, a further examination of this finding revealed that the difference in treatment completion status was due to group differences in sociodemographic and substance use variables. When differences in sociodemographic and substance use variables between the two groups were controlled in a logistic regression analysis, there was no significant difference in satisfactory treatment completion between the **Medicaid Group** and **Comparison Group**.

Length of stay for treatment completers was found to be significantly longer for the **Medicaid Group** than the **Comparison Group** for both inpatients and outpatients. A linear regression analysis, controlling for sociodemographic and substance use variables, revealed that Group status did not predict length of stay for inpatients, but remained a significant predictor of length of stay for outpatients, with the **Medicaid Group** having longer lengths of stay.

These results confirm that changes associated with the implementation of the waiver did not have a negative impact on the quality of care received by Medicaid-eligible patients.

REFERENCES

Harrison, P.A., & Asche, S.E. (2000). The challenges and benefits of chemical dependency treatment: Results from Minnesota's treatment outcomes monitoring system. St. Paul: Minnesota Department of Human Services.